MANUFACTURING TRENDS

Leveraging Software & Tech To Maintain a Competitive Edge

From the artisans who bake a $20 loaf of bread to the plant managers who make sure you're never more than 20 feet away from a phone charger, manufacturing companies of all types face similar challenges during times of disruption. To maintain a competitive edge, many organizations turn to manufacturing software solutions. But when the software itself is rapidly changing, it can be tough to know where to start. That's why we spoke to several experts to put together a list of the top manufacturing trends for 2019 and how leveraging software can help you get ahead.

Mobility in Manufacturing
Mobile technology is changing the entire world of business, including manufacturing. Cloud software acceptance has grown exponentially over the past several years, enabling users to access their systems outside of the main office. Faith Kubicki, Content

Marketing Manager at IntelliChief, explains why this trend is growing. She said, "One of the biggest trends we have seen is the need to complete administrative tasks on the go — when it's otherwise difficult (or impossible) for a user to log in to their core ERP."

We also spoke to Joe Scioscia, VP of Sales at VAI. He, too, saw the trend towards mobile solutions in the manufacturing software industry. He stated, "Today, mobile solutions are turning ordinary smartphones into powerful business tools. Advanced mobile apps for order processing, shop floor control, and product quality testing are helping manufacturers collect critical data easily and quickly, improving efficiencies, and enhancing customer service."

And in Plex Systems' 2019 State of Manufacturing report, 75 percent of their respondents were

using mostly cloud- or entirely cloud-based solutions. Among the respondents who reported using all cloud-based software, 55 percent reported moderate to strong improvement when it came to mobile integration.

Kubicki then went on to explain how mobile solutions can directly impact business when she said, "For instance, users may need to review engineering change orders and send them to the production team or assign job costs to each of their materials purchases. If they don't have immediate access to their primary manufacturing software, that process can be delayed or even forgotten about. In the case of the engineering change order, that can translate to a longer lead time; in the case of the job cost accounting, that can lead to the invoice being paid late — and incurring corresponding late fees."

Increased Automation

In addition to mobile solutions, Kubicki also cited automation as another manufacturing software trend vendors are ramping up to follow. She said, "Because long lead times and late payments can make it harder for a manufacturer to stay competitive, they're turning to automation to accelerate their back-office workflows."

She continued, "Data entry automation is [a] key feature that manufacturers are using to reduce their operating costs. Instead of having employees … manually key all of the data into their manufacturing software, they're relying on optical character recognition to instantly scan their documents, collect the most important information and send it directly to their ERP. One furniture manufacturer that we worked with cut their order processing time in half by taking the manual data entry out of the equation."

But don't let this manufacturing software trend scare you. Robots won't be taking over anytime soon. According to the aforementioned Plex Systems study, 62 percent of respondents reported that a shortage of skilled labor was their biggest obstacle to company growth. The report also discussed the fact that workers 55 and

above make up 25 percent of the manufacturing workforce — an age group that sees 10,000 retirements a day. Even with automation, manufacturing businesses will be struggling to keep up with demand.

Add-Ons, Not New Systems

Our experts also believed we would see an increase in system add-ons. Kubicki noted that when a user's system is lacking, they often turn to these software extensions. "Some manufacturing platforms already have basic automation features built in, although many do not — and that's why we've seen more manufacturers turning to 'add-on' solutions that make their existing software easier to use."

But why not just invest in a new manufacturing system that contains all the features you need from the start? David Altemir, President and Senior Consultant at Altemir Consulting, explains why it's not so simple:

"It's important to understand that it took nearly 25 years for color television to reach 90 percent of U.S. households. Although technology adoption, in general, tends to be quicker now than it used to be, the technology roadmaps for manufacturing software offer major upgrades

approximately every two to eight years. The adoption of new ERP systems, for example, is something that most manufacturers are not quick to do unless they feel they have reached some kind of breaking point that requires a software solution."

Altemir noted that add-ons are an easier way for many manufacturers to benefit from the latest technology, without having to uproot their entire system.

AI, IoT and Blockchain

Altemir then went on to discuss what specific tools might raise in popularity. "Artificially intelligent 'wizards' may be added to support supply chain functions such as purchasing and inventory management. However, I feel that some of these AI developments may fall flat if they are designed to be too reactive and end up introducing unnecessary volatility to the operations that are counter-productive. Some current software has already fallen into this trap and so this is a real risk."

He also discussed the Internet of Things, a technology we've been hearing about for quite a while in the supply chain. He said, "IoT is an area that is more mature and has been successfully practiced as part of machine data collection

(MDC) and SCADA systems. Of all the technologies I've mentioned, I think this is the one that will provide the most immediate benefits." Using IoT, businesses will be able to measure things like machine utilization and efficiency on a granular level. If also taking advantage of a business intelligence add-on, businesses can use this data in their broader business analyses.

The IoT also saves organizations time and effort on the manufacturing side of business, allowing them to focus on other aspects that may have been neglected. Kubicki offered her thoughts:

"Traditionally, manufacturing software has focused on the production side — such as labeling and barcoding, material requirements planning and warehouse management. However, as the Internet of Things has continued to expand, more and more manufacturers have started extending their efforts to their back office." Which is excellent news, as the back-office operations of manufacturing have been ignored for far too long. According to a Manufacturing Global article by Tim Rushent, the lack of attention on the back-office has increased the risk for siloed business

practices in this industry.

Rushent gives a hard-hitting example when he mentions how much paper is wasted in the back-office. He writes, "Recent estimates suggest that only 60 percent of the printing that happens in the workplace is necessary. That means 40 percent of the printing — and the associated cost of the paper, printers, ink and power consumption of the devices — is entirely avoidable." If something as simple as paper waste isn't being properly handled in the back-office, think of all the other metrics are slipping through the cracks. With IoT, businesses will be able to spend less time micromanaging the shop floor and more time improving processes in the back-office.

Altemir provides one last example of an add-on when he described blockchain technology. He said, "Blockchain, as far as I can tell, is best suited as a mechanism to maintain traceability of products once they are introduced into the field. This has the prospect for reducing the impacts of product recalls. However, the need for industry standards to make such an approach practical is something that will likely impair adoption."

And while adopting blockchain

technology won't be easy, there's quite a lot at stake. Currently, the supply chain loses over $300 billion per year over fraudulent items and other cost leakage due to improper tracking. Blockchain technology would make it much easier to detect fake merchandise and avoid unethical procurement practices.

To Sum It Up
It seems the disruption cycle within the business software world gets shorter and shorter with every moment. And while this, of course, affects otherwise smooth manufacturing processes, it also allows for innovative manufacturing software trends to present themselves, helping to solve problems we may have originally thought of as an unavoidable cost of doing business.

With what appears to be constant buzz in this industry surrounding new technology, it can be easy to ignore the latest manufacturing trends and press on with life. However, by understanding the latest trends, you're one step ahead when it comes to maneuvering through them. This is especially true when it comes time to invest in a new manufacturing software system.

In order to get the best

manufacturing system for your business, you'll need to make a list of requirements. This includes all the features and facets you'll need from a software system to keep pace with today's trends. Once that's done, we recommend checking out our manufacturing software comparison report to see how the top systems perform when it comes to common requirements.